WHAT IS CLAIMED IS:

1. A blood pump system which comprises a housing having an inlet port and an outlet port, a rotor rotated in said housing for pumping blood, and a motor for rotating said rotor, said blood pump system comprising a motor current measuring function, and a backflow detecting function for detecting a backflow of blood by use of a motor current value continuously measured by said motor current measuring function.

2. A blood pump system as set forth in claim 1, comprising no direct flow rate detecting means.

3. A blood pump system as set forth in claim 1, wherein said backflow detecting function comprises a motor current threshold storing or calculating section for storing or calculating a motor current threshold varying according to a rotational speed of said rotor, and a backflow generation determining function for determining the generation of a backflow by use of said motor current value measured by said motor current measuring function and said motor current threshold.

4. A blood pump system as set forth in claim 1, wherein said backflow detecting function comprises a motor current threshold storing or calculating section for storing or calculating a motor current threshold varying according to a rotational speed of said rotor, and a backflow generation determining function for determining, when the period of time when said motor current value measured by said motor current measuring function is not more than said motor current threshold at the rotational speed has reached or exceeded a predetermined period of time, that a backflow is present.

5. A blood pump system as set forth in claim 1, wherein said backflow detecting function comprises a motor current threshold storing or calculating section for storing or calculating a motor current threshold varying according to a rotational speed of said rotor, and a backflow generation determining function for determining, when the average over a

predetermined period of time of said motor current value measured by said motor current measuring function has been lowered to or below said motor current threshold or when the condition where said average is not more than said motor current threshold at the rotational speed has been generated continuously or intermittently, that a backflow is present.

6. A blood pump system as set forth in claim 1, wherein said backflow generation detecting function comprises a motor current threshold storing or calculating section for storing or calculating a motor current threshold varying according to a rotational speed of said rotor, and a backflow generation determining function for detecting a sequential motor current lower limit peak value from said motor current value sequentially measured by said motor current measuring function and for determining, when said motor current lower limit peak value has been lowered to or below said motor current threshold at the rotational speed or when the condition where said motor current lower limit peak value is not more than said motor current threshold at the rotational speed has continued, that a backflow is present.

7. A blood pump system as set forth in claim 1, wherein said backflow detecting function comprises a motor current threshold storing or calculating section for storing or calculating a motor current threshold varying according to the rotational speed of said rotor, and a backflow generation determining function for detecting a sequential motor current lower limit peak value from said motor current sequentially measured by said motor current measuring function and for determining, when the average over a predetermined period of said motor current lower limit peak value has been lowered to or below said motor current threshold at said rotational speed or when the condition where said average is not more than said motor current threshold at said rotational speed has continued, that a backflow is present.

8. A blood pump system as set forth in claim 1, wherein said

backflow detecting function comprises a motor current frequency distribution calculation function for calculating a frequency distribution by use of the motor current value in a predetermined period of time measured by said motor current measuring function, and a backflow generation determining function for determining the generation of a backflow by use of said frequency distribution calculated by said motor current frequency distribution calculation function.

9. A blood pump system as set forth in claim 1, wherein said backflow detecting function comprises a motor current frequency distribution calculation function for calculating a frequency distribution by use of the motor current value in a predetermined period of time measured by said motor current measuring function, and a backflow generation determining function for determining, when the intensity of a secondary harmonic wave in said frequency distribution calculated by said motor current frequency distribution calculation function has increased to or above a predetermined proportion of the intensity of a fundamental wave in said frequency distribution or when the condition where the intensity of the secondary harmonic wave in said frequency distribution calculated by said motor current frequency distribution calculation function is not less than a predetermined proportion of the intensity of the fundamental wave in said frequency distribution has continued, that a backflow is present.

10. A blood pump system as set forth in claim 1, wherein said backflow detecting function comprises a motor current derivative calculation function for calculating a derivative by use of the motor current value sequentially measured by said motor current measuring function, and a backflow generation determining function for determining the generation of a backflow by use of said derivative calculated by said motor current derivative calculation function.

11. A blood pump system as set forth in claim 1, wherein said backflow detecting function comprises a motor current derivative

calculation function for calculating a derivative by use of the motor current value sequentially measured by said motor current measuring function, and a backflow generation determining function for determining, when the condition where the generation of zero points of the derivative calculated by said motor current derivative arithmetic function in a predetermined period of time is increased has continued, that a backflow is present.

12. A blood pump system set forth in claim 1, wherein said backflow detecting function comprises a motor current derivative calculation function for calculating a derivative by use of the motor current value sequentially measured by said motor current measuring function, and a backflow generation determining function for determining, when the period of generation of zero points of said derivative calculated by said motor current derivative calculation function in a predetermined period of time has become greater than the frequency between motor current upper limit peaks or when this condition has continued, that a backflow is present.

13. A blood pump system as set forth in claim 1, wherein said backflow detecting function comprises a motor current derivative calculation function for calculating a derivative by use of the motor current value sequentially measured by said motor current measuring function, and a backflow generation determining function for determining, when the condition where the generation of zero points of the derivative calculated by said motor current derivative calculation function in a predetermined period of time appears repeatedly in shorter periods and longer periods is generated or when said condition has continued, that a backflow is present.

14. A blood pump system as set forth in claim 1, wherein said backflow detecting function comprises a motor current derivative calculation function for calculating a derivative by use of the motor current value sequentially measured by said motor current measuring function, a derivative threshold storing section for storing a derivative thresholds for

determination, and a backflow generation determining function for determining, when the derivative calculated by the motor current derivative calculation function is within said derivative threshold under predetermined conditions or when the condition where said derivative is within said derivative threshold under predetermined conditions is repeated, that a backflow is present.

15. A blood pump system as set forth in claim 1, comprising alarm means which is operated when it is determined by said backflow detecting function that a backflow is present.

16. A blood pump system as set forth in claim 1, comprising a rotational speed control function for increasing the rotational speed of said rotor when it is determined by said backflow detecting function that a backflow is present.

17. A blood pump system as set forth in claim 1, wherein said rotor is an impeller for pumping blood by a centrifugal force upon rotation thereof.

18. A blood pump system as set forth in claim 1, comprising said housing having said inlet port and said outlet port, a centrifugal pump section having an impeller comprising a magnetic member therein and being rotated in said housing so as to pump blood by a centrifugal force upon rotation thereof, a rotor comprising a magnet for attracting said magnetic member of said impeller of said centrifugal pump section, an impeller rotational torque generating section comprising a motor for rotating said rotor, and an impeller position control section comprising an electromagnet, wherein said impeller is rotated in said housing without any contact.